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ABSTRACT

This paper argues that several aspects of educational technology, especially educational biotechnology (EBT), are harmful to people and the environment, and will eventually lead to harms that far out-weigh any purported advantages of the technology, and that this is morally unacceptable. (EBT is characterized as the study and application of scientific and other organized knowledge, processes, and products to the physical state of humans for the purpose of creating changes in learning.) The first sections of the paper describe what could be immoral about educational technology (including EBT), assumptions guiding the author's current research for answers, characterizations of EBT and related ideas, and professional literature about the issues raised in the paper. Three basic lines along which educational technology just might be shown to be injurious are indicated: (1) technology may impede learning by constricting options for learners and parents; (2) oppression of less advantaged people is exacerbated by computers in education; and (3) technology and educational technology are ecologically destructive first cousins. It is suggested that intentionally choosing to continue on the path of destruction, even though the extent of negative possibilities in known, makes these effects immoral. It is assumed that critical theory and literature related to it will help show the way to a moral condition in this matter, and the ideas of three theorists--Habermas (critical theory), Rorty (liberal ironist), and Barrett (moral will)--are examined. It is concluded that we must achieve a balanced use of technology so that schools, people, and life are in moral and physical balance, and too many unnecessary and intentional deaths may be avoided. (41 references) (BBM)

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EDUCATIONAL BIOTECHNOLOGY AND A SEARCH FOR MORAL OPPOSITION TO IT*

Randall G. Nichols

INTRODUCTION

I have come to the conclusion (Nichols, 1990, 1991) that several aspects of educational technology, especially educational biotechnology (EBT), are harmful to people and to the environment. Something inside tells me that educational technologies will eventually lead to harms that far out-weigh any purported advantages of the technology. And I conclude that this is morally unacceptable. One main issue, then, is presenting publicly this danger and this morality so that others might consider and resist educational technology that does harm. This paper is just such a presentation. And by "others," I mean that I especially want to encourage learners and teachers to think and act more wisely if they conclude that the prospect of a future with EBT is somehow wrong.

In order to begin to get at a discussion of educational biotechnology and morality, the first sections of the paper describe: what could be immoral about educational technology (including EBT), assumptions guiding my current search for answers, characterizations of EBT and related ideas, and professional literature about the issues raised here.

In large part though, I'll examine the critical theory of Habermas, Rorty's liberal ironist, and Barrett's moral will. Though Habermas is the one of the three to be most closely associated with critical theory, his ideas of communication, language, morality, and rationality lead me almost inevitably not only to some light but to Rorty. Rorty's theory of communication and morality strongly contradict Habermas' notion of "the ideal speech situation," where perfect communication and morality are possible. And when both men, as brilliant as they are, leave me short of being able to develop my own moral principles in conjunction with educators, a turn to the existentialist spirit of Barrett is, in essence, inevitable. His ideas about human faith and will and their associations with morals and technology are particularly illuminating. We will turn to these thinkers before much longer.

WHAT COULD BE IMMORAL ABOUT EDUCATIONAL TECHNOLOGY?

Some readers are asking "How could it be that educational technology might be harmful and immoral?" This idea is nearly incomprehensible to many of us. After all, this prospect of the "negative" aspects of technology goes against the proclamations of Apple Computer Corporation's John Sculley, against many local school boards, and against your Sunday paper's glowing report on "The Latest Gizmo-Tech Revolution for Your Child's Education And A Swell Future." I want to indicate just three basic lines along which educational technology just might be shown to be injurious.

First, technology may impede learning by constricting options for learners and parents. The growing accountability movement in American

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*Martha Hendricks helped greatly to improve a late draft of this paper. Thank you, Martha. Any errors now in this text are of my own authorship.

schooling uses technologies (including standardized testing and bureaucratization) more and more to impose widely prescribed curricula and methods on individual schools or districts (Taylor, 1986). To believe we can make good learners with a wealth of stored knowledge is to say that learners can not be responsible for their own selections of appropriate content and learning methods--and so very few are responsible, at least according to the national tests that show us we are failing.

Hardison (1989) even goes so far as to speculate that technology is the new and predominant entity on earth and in the heavens, in line to very quickly put humans in a position where we will communicate less and even drop into a kind of universal stupor which is somehow pleasant to us. Of course Hardison implies that these possibilities are mostly good. They are interesting, natural, and milestones of wonderful progress. I believe I disagree.

Socio-culturally, there is quality research which indicates that oppression of less advantaged people is exacerbated by computers in education. Sutton (1991) shows the ways in which uses in American schools indicate that computer use during the 1980s did not bring education closer to equal educational opportunity. Rather, it maintained and exaggerated existing inequalities in education input, processes of computer learning, and output. Poor, female and minority students had less access to computers at home and, in addition, less access to computers at school....Poor and minority students were more likely to use computers for drill and practice than were middle-class and White students, and females outnumbered males in word processing but were underrepresented in programming. Teachers, while concerned about equity, held attitudes which hindered access: They believed that better behaved students deserved computer time and that the primary benefit of computers for low-achieving students was mastery of basic skills....Thus, children who were minority, poor, female, or low achieving were likely to be further behind after the introduction of computers in schools....These inequalities were found in the U.S.A., Great Britain, Australia, Canada, and New Zealand (pp. 494)

Thirdly, technology and educational technology are ecologically destructive first cousins. I hope I do not need to remind anyone of the incredible destruction associated with technology in general, but in the film *After The Warming* (Sattin, 1989), James Burke predicts many decades of social and ecological upheaval and death, even if we could somehow immediately reverse the damage we are doing presently. Which we most likely can not. Education teaches about the wonderful possibilities of technology and about the desirability of using technology to control all aspects of our lives, from child birth to dying, and so encourages destruction. How many millions of personal computers have been purchased in the last decade alone? Do they use the same amount of electricity as a town of over 300,000 or 1,000,000 people? They use a lot of energy, most of it being fueled by carbon-based materials that pollute. And just where does all the used plastic in computers go when its discarded?

So these effects are bad, but what could make them immoral too, how could we be evil in this state of affairs? I suggest that because we now know the extent of negative possibilities, we are *intentionally* choosing to continue on the path of destruction which is needless and wanton. Intentionality is a critical

point on which to make many decisions about morals. It is, for instance, one of the principle bases of legal systems; if you know ahead of time of the consequences of an act and knowingly procede with the act, you are all the more guilty. The path of technology is littered with immorality.

Additionally, and reflecting a view that is central to this paper, those few people in positions to make choices that affect the world's population do not subscribe to the moral principle, in cultural morality at least, that everyone should have a free, informed, reasonable, and uncoerced say in what is and is not moral about technology. Vitually none of us had a *direct*, meaningful say in the exorbitant increase in America's nuclear arsenal? Do you have a direct say in how to clean up the devastation caused by this technology? Or will you just wait passively to see what happens? We do not have very much of a democracy in this sense. To the extent that almost none of us participate meaningfully in widespread discussions about these issues, and powerful people are not looking for ways to increase our power, the few powerful people could be construed as immoral.

I can only speculate that engineering of our minds and bodies will only worsen the kinds of techno-moral dilemmas in which we now find ourselves.

ASSUMPTIONS

Several assumptions guide this search to a more moral technology use. First, I assume that educational biotechnology (EBT) is dangerous and that many people with the desire and the ability to do so will use drugs, neural surgery, psychological training, and genetic manipulation to improve memories, thinking skills, and learning attitudes of their children.

It is also an assumption that critical theory and literature related to it will help to show the way to a moral condition in this matter. The ideas of the three theorists discussed here address morals and over-extended rationa zation in a lively and current, if not widespread, fashion that is hard to find anywhere else.

Of course I assume (hope?) that we will not destroy ourselves with war weaponry or ecological suicide before we are faced with the problems to which I allude and before we have a chance to reach some more or less common moral agreement about a widespread human stance in relation to these issues. To make the points herein is to have at least a modicum of hope in the face of a future that is quite likely to be very harsh for us and the earth.

I believe, too, that current educational technologies won't positively revolutionize learning in major ways. History supports this assumption (Saettler, 1990). Further, only rarely do the most widely disseminated calls for educational reform and the reforms themselves seem likely to use the fullest capabilities of technology; saturated use of technology is rarely, if ever, recommended by national commissions and the like.

I assume, also, that in the next several years we still will be failing miserably to educate ourselves. I do not mean necessarily that the failure will be in terms of current conceptions of success, which focus on mental facts, concepts, and generalizations or on the societal needs of schooling for nationalistic economic dominance. I mean that our formal education structures will not help us to avoid a crumbling ecology, a starving world population, losses

of political rights, and injuries of selfhood.

Perhaps most importantly, I assume that any danger of EBT is part and parcel to the basic problem of a too rational way of life (See Sarason, 1991 about education and rationalization). This is to say we believe too strongly that our logical-instrumental selves can overcome all the problems with which we think we are faced, from poverty to pimples, even though the evidence is that a dominant rationality is too often as destructive of the human spirit and existence as it is healthy. Not only is this conscious self too mentally and emotionally subjugating, but it is also physically detrimental. As Ellul (1990) concludes in *The Technological Bluff*, the power of technology means a "subordination of the individual to machines [and other technologies] over which there is less and less control" (p. 158).

CHARACTERIZATIONS

The meaning of educational biotechnology (EBT) is not pat, but it has been described as "the study and application of scientific and other organized knowledge, processes, and products to the physical state of humans for the purpose of creating changes in learning" (Nichols, 1991, p. 128). For example, when, in utero, a child's genes are engineered to produce a person with virtually no likelihood of being "hyperactive" in school, this is EBT.

Let me briefly characterize "morality" and distinguish it to some basic degree from "ethics." A basic definition of morality is to call it a condition wherein we make judgments "of goodness and badness of human action....'Moral' pertains to personal behavior...measured by prevailing standards of rectitude. 'Ethical' approaches behavior from a philosophical standpoint; it stresses more objectively defined, but essentially idealistic, standards of right and wrong, such as those applicable to the practices of lawyers, doctors, and businessmen" (American Heritage Dictionary, 1979, p. 852).

Ethics implies the codes or laws that derive from moral principles and that are more or less situation specific. Since, in my judgment, practically no one is considering the issues I raise here, and since no widespread conversation (conversation that closely reflects the activities and essences of the three authors examined here) about EBT and morals is occurring, I would be arrogant and misguided (indeed, immoral and unethical) at this point to attempt anything but leaving the details of an ethical system for future conversations. Besides, I'm cautious about any kind of system, as you may discern shortly. Also, the conversations must start among many people, not just among formal philosophers, educators, and technologists. So I like the idea that morals tend to apply more to the goodness and badness of personal behavior, while, at the same time, the notion of morals aims for a greater public good. Further, if the conversations don't happen of our accord, we unavoidably and more harshly will be faced with these issues. And if the talk doesn't happen at the common level it will not take hold generally.

Consequently, this paper contains less about specific ethical codes than it does about what the conversation on morality might look like, what issues in the conversation could be most meaningful, who ought to participate, what moral principles might emerge, and how educational technologies fit into larger views of technology and morals. In other words, you will not find exact ethics

directions for living, but some speculations about getting started with the pressing conversations about the morality of EBT.

Turning to the notion of "rational," it is meant here to be the broadest concept of human logical-instrumental thinking and doing. I am referring to nearly any mode of human existence whereby we use logical elements of our thinking to change something in our world. Systematically applying a formal instructional design and development model to the task of educating people is a rational activity. "Rationalistic" is the extended, most intense form of the rational. Notions such as "empiricism" and "positivism" are meant as very closely related sub-concepts of "logical-instrumental," inasmuch as they are more developed, specific manifestations of rationality.

About critical theory, though I suggest it comes up short in some ways, I find it to be a useful foundation to my search for morals associated with educational biotechnology. Many critical theorists assume that "each historical situation is a distortion of the utopian vision that was the normative basis [a moral basis] for the existing social structures and beliefs" (Ewert, 1991, p. 355). These theorists believe that individuals and societies can be better, and that being better involves exposing the meaninglessness of an over-extended rationality, whether this meaninglessness is found in science, economics, politics, mass media, morals, or education. Rationalization in all areas of life has led to erosions of community, self, language, biosphere, and hope, as Habermas will help to show in a later section of this paper.

Thomas McCarthy (1991) describes aspects of critical theory as:

--Challenging the notion of pure reason; showing its changeability depending on culture, history, and power in which it is embedded.

--Likewise, the theory rejects the "Cartesian picture of an autonomous rational subject" who tries to control the world.

--In critical theory the practical takes precedence over the theoretical, but theory is bound to the practical.

--Knowledge is not disembodied from the rest of existence; still, though, a distanced or objectivating understanding of knowledge is needed.

--Established human sciences, scientifically trained experts, and rationalization all come in for close analysis by critical theorists.

--A major purpose of critical theory is to make problematic what is taken for granted in culture (power relationships, often) so that a degree of social justice can be had. (p. 43)

And the critical theorists of the early Frankfurt School "believed that the appropriate method of critique was immanent critique, which proceeds through forcing existing views to their systematic conclusions, bringing them face to face with their incompleteness and contradictions, and, ultimately, with the social conditions of existence" (Young, 1990, p. 18). This belief is a recurrent theme in critical theory even today.

Without inferring too much, then, we could say critical theory leads to the conclusion that rational-technological aspects of humans lead to human alienation and to ecological peril, as Habermas will help to explain.

BACKGROUND LITERATURE

Many people have spoken about technology in general and its

moral/ethical implications. Ellul (1990), for instance, speaks to these issues. He talks of how technology is more and more surrounding us and says "This encirclement or outflanking of people and society rests on profound bases (e.g., a change in rationality) and the suppression of moral judgment, with the creation of a new ideology of science" (p. 19). In relation specifically to learning, Ellul (1990) says that, "Pedagogy (learning how to learn) is a central feature of this technisizing of instruction, which implies a culture of practical intelligence in the place of reflective or critical intelligence" (p. 136).

And many people, Strike and Soltis (1985) for instance, have addressed the issue of morals and ethics in education. *The Moral Dimensions of Teaching* (Goodlad, Soder, & Sirotnik, 1990) is a good example of the ongoing concern for ethics and morals within the professional education community. In *Dimensions*, Soder takes a brief look at the "new technology of schooling" (p. 64), but he implies that new technologies like EBT are not likely to proliferate, and besides, it's not clear to me exactly what his chapter has to do with technology and morals. It's mostly about the professionalization of teachers.

In terms of volume, much has been written on critical theory and education. Gerry D. Ewert (1991) and Robert E. Young (1990) are authors of instances of this genre. Further, there is a sense in which critical theorists generally examine technology very closely, when the topic is rationalization and the science, bureaucracy, social hegemony, and pollution that accompany it. Carr and Kemmis (1986), for example, discuss education, knowledge, and research in education in terms of their technical features and uses and the ways these features can be about ethics and morality. And just recently, Feenberg (1991), in *Critical Theory of Technology*, even speaks a little to the relationships of critical theory, technology, *and education*, suggesting at one point that

> we could construct an ideal type of a socialist economic code in which educational activities, which capitalist society considers to be investment and evaluates in terms of productive efficiency, would be placed in the category of consumption and evaluated as contributions to welfare (p. 152).

However, in the critical theory literature, we find virtually no discussion about the combination of EBT, ethics, and critical theory. The topics are never mentioned in conjunction with one another. There is no discussion of which I am aware about the process relationships of these three issues. One way of putting this process problem is to ask how EBT, morality, and critical theory ought to be discussed and used for some positive actions. And though no critical theorist of whom I am aware looks specifically at the future of EBT, the critical theory of Habermas will help to explain how critical theory informs the EBT problem.

If we ask about investigations of the morality and ethics associated with educational technology, this field is somewhat well-represented. For instance, the Association for Educational Communications and Technology (AECT) has a professional ethics committee and statement, and there have been several presentations over the last few years at its annual conference where ethics, morals, and technology were the topics (e.g., Damarin, 1990; Koetting, 1983; Nichols, 1988; Schwen, 1988; Taylor & Swartz, 1988).

In terms of something like EBT all by itself, just a handful of people (Hanson and Gueulette, 1988; Heinich, Molenda, Russell, 1989; Knirk & Gustafson, 1986, to name some of the few) have published in this area, and in most of these instances only tangentially. Hanson and Gueulette (1988) cite several potentially severe problems with EBT ("psychotechnologies" in their terms), but they add, "What is potentially new about transformational technologies and truly indicative of an authentic paradigm shift is the potential to wed psychotechnologies to an ecological vision which balances, not dominates, nature" (p. 240). They urge us to take responsibility for our psychotechnological creations. They seem hopeful that we can create a balanced vision. I, of course, am not so hopeful.

In terms of EBT together with ethics, however, I can find only a couple of citations in the last few years. Dede (1986) claims that "biological manipulation of humans alters internal and affective capabilities: emotions, neurological development, intellectual capacity, genetics, aging" (p. 43). And though he cautions that "These emerging technologies may impose more complex ethical challenges than the atomic bomb, computer, and television combined" (p. 43), he is generally optimistic (very naively optimistic, I believe) about our capacity to prepare our children to assume responsibility for the morality and ethics of EBT. I have written elsewhere about EBT (Nichols, 1990) and propose that "EBT will cause profound doubt, dilemma, and moral consternation about modern thinking and technology. What does it mean to learn, to have knowledge, and to be human" (p. 138) in learning situations characterized by, say, an educational black market for memory enhancing drugs?

In sum, then, very few people are examining a future with EBT. One way to pursue the notion that EBT will proliferate and be destructive is to turn to philosophers of morals for guidance. Moreover, philosophy is an approach which seeks wisdom and seeks to get at basic beliefs (Randall & Buchler, 1970), and, so, calls on evidence that includes but goes beyond the highly rational, the strictly practical.

HABERMAS AND CRITICAL THEORY

So we turn to the critical theorist, Habermas, who analyzes rationality in relation to morals, and whose theory of communicative action is critical of some media and of extreme rationality. According to Ewert (1991), "The central theme in Habermas' work is the development of a comprehensive theory of rationality sufficient to encompass science, morality, and art" (p. 346) [emphasis mine]. There are at least three issues on which Habermas is very attractive. He speaks to: that in us which is less rationalistic (often called "the other"), the character of meaningful communicative acts, and morality.

On the first issue, he speaks to that in humans which is not purely rational, but which is also tacit, intuitive, and only implicit. He calls the "place" where this happens the "lifeworld" and says that it "is an implicit knowledge that can not be represented in an infinite number of propositions; it is holistically structured knowledge, the basic elements of which intrinsically define one another; and it is a knowledge that does not stand at our disposition, inasmuch as we can not always make it conscious and place it in doubt as we please" (Habermas, 1981/1984, p. 336).

Through certain kinds of language, this lifeworld helps to influence our affairs. In his theory of communicative action, Habermas says that, "Language and culture are constitutive of the lifeworld itself" (Habermas, 1981/1987, p. 125). And "when people are in truthful, right, or authentic communication, they use language and culture in such a way that language and culture, too, are implicit, are only on the horizon, are part of the reservoir from which people select knowledge" (Nichols, 1990, p. 35).

Habermas argues that there are several kinds of knowledge and that the communicative use of knowledge means competence in the "unconstrained, unifying, consensus-bringing force of argumentative speech" (Habermas, 1981/1984, p. 10) in order to transmit cultural knowledge, fulfill norms appropriate to a given social context, and socialize individuals at the level of personality (Habermas, 1981/1987, p. 63). Unlike positivist claims, validity claims in this realm are made not by logical-instrumental uses of knowledge but via "nondeductive relations between pragmatic units (speech acts)" (Habermas, 1981/1984, p. 22).

But Habermas does not seek to eliminate the rational altogether; he wants the lifeworld and rationality to meet via argumentation, and he says, "The rationality inherent in this practice is seen in the fact that communicatively achieved agreement must be based in the end on reasons. And the rationality of those who participate in this communicative practice is determined by whether, if necessary, they could, under suitable circumstances, provide reasons for their expressions" (Habermas, 1981/1984, p. 17). "Suitable" requires that there be no coercion, but shared intersubjectivity.

A major concern for Habermas is that rationalization of the lifeworld changes communication and social structures, sometimes in deleterious ways: we rely more on communicative consensus that is more abstract; pedagogical approaches to child-rearing and formal schooling increase; society becomes more legalistic and bureaucratic, while concrete value-orientations decrease and actions aimed more at success than at mutual understanding increase.

In these circumstances, more and more complex social systems have to be coordinated, and Habermas calls some of the mechanisms which do so "delinguistified media." They are delinguistified because they require less and less direct consensual speech/argumentation. Examples of these media include prestige, power, influence, and money [and sometimes electronic mass media]. They threaten us when they either condense or replace mutual understanding in language:

> Media such as money and power attach to empirical ties; they encode a purposive-rational attitude toward calculable amounts of value and make it possible to exert generalized, strategic influence on decisions of other participants while bypassing processes of consensus-oriented communication. Inasmuch as they do not merely simplify linguistic communication, but replace it with a symbolic generalization of rewards and punishments, the lifeworld contexts in which processes of reaching understanding are always embedded are devalued in favor of media-steered interactions; the lifeworld is no longer needed for the coordination

of action (Habermas, 1981/1987, p. 183).

Further, these media become more and more complex so fewer people understand or take responsibility for them, and "In this way the destruction of urban environments as a result of uncontrolled capitalist growth, or the overbureaucratization of the educational system, can be explained as a 'misuse' of media" (Habermas, 1981/1987, p. 293). Note, however, his claim that the base difficulty with this kind of history is attributable ultimately to "an elitist splitting off of expert cultures from contexts of action in daily life" (p. 330); it is the increasingly rationalistic ways in which a few of us think and act that cause us danger.

Habermas (1984) makes this same argument with reference to education having been shifted to schools and away from parents and community. He notes the ways we try to protect children in these removed circumstances by litigation and rules, but he concludes that, "The protection of pupils' and parents' rights against [potentially harmful aspects of] educational measures...is gained at the cost of a judicialization and bureaucratization that penetrate deep into the teaching and learning process" (p. 371). Bringing schooling under the domain of law abstractly groups people in educational competition and achievement processes. So school law becomes the norm, without much consideration of students' and educators' concerns, needs, interests, or life relationships. To the extent this description of rationalization holds, it "has to endanger the pedagogical freedom and initiative of the teacher. The compulsion toward litigation-proof certainty of grades and the over-regulation of the curriculum lead to such phenomena as depersonalization, inhibition of innovation, breakdown of responsibility, immobility, and so forth" (p. 371).

Habermas (1990) takes his theories about communicative action and the degradation of lifeworlds into his most explicit treatment of morality, *Moral Consciousness and Communicative Action*. In this book, he gives his most complete discussions about what he means about the nature of morals. He does not speak directly to the problem I raise here (that EBT will proliferate, be dangerous, and is often immoral), but he does offer a description of moral principles and processes associated with it. And here, too, he argues that the only good way to universal moral principles is via argumentative communication as sketched above.

Two principles, or "rules," guide this discourse on morals. The first is what he calls a universal principle, and it reads, "All affected can accept the consequences and the side effects its general observance can be anticipated to have for the satisfaction of everyone's interests (and these consequences are preferred to those of known alternative possibilities for regulation)" (p. 65). Habermas tries to show that this is a universal because, for instance, everyone who honestly enters an argument presupposes such "rules" as "no speaker may be prevented, by internal or external coercion, from exercising his rights [of speech]" (p. 89).

His second principle of discourse ethics is derived from conditions of the first and says, "Only those norms can claim to be valid that meet (or could meet) with the approval of all affected by their capacity as participants in a practical discourse" (p. 66). This is a practical discourse in which participants must not

only reflect and vote on the norm in question but must partake of a fully intersubjective process "that is reflexive in nature; only it can give participants the knowledge that they have collectively become convinced of something" (p. 67). He calls this type of conversation a transcendental-pragmatic justification, in that the intuitive in us and the rational in us meet in conversation.

Habermas is to be applauded for giving us somewhat of a process and universal guides to achieving consensus. His explanation of the features of morals and the processes by which we might meet consensus is very attractive; it is a way to join the intellectual with the tacit in us--and to do so in conjunction with communities of people. He shows how various communities which fight delinquistification and ecological damage have emerged more or less of their own holistic volition, not by legislation and rationalization. He shows that there is hope that a moral condition among people, one which is resistent to rampant technology, can gain a foothold. He searches for ways too rationalized lives can get back to a more balanced, moral condition.

HOW HABERMAS FAILS ME

However, I can not get enough help from him on my immediate need to resist technology now. Habermas is clear that he believes that the road he is suggesting--the transcendental-pragmatic justification of a rule of argumentation--is selective, and that the rule "is not compatible with all substantive legal and moral principles" (p. 94). He says, further, that the rule "is a rule of argumentation only" (p. 94). In other words, applying these principles to specific situations is, at best, difficult and, at worst, nearly impossible since even agreeing to hold conversations such as he suggests is often nearly impossible. When people (men mostly, I suspect) come together to discuss meaningful, pragmatic matters, the participants often are not satisfied with others' arguments. Think about nations trying to find ways to alleviate natural resource destruction. At least to this point in history, participants' conversations are often verbal fist fights, not consensual conversations. And think of most higher education academic units. It is in these units we might expect the most community of conversation; however it is in many of these units where some of the least constructive conversation occurs, at least in several of the education departments and colleges of which I am aware!

And as he says, there is no specific content attached to these rules, only a way to proceed (p. 94). And though having a procedure is helpful, we also need a content to which to attach these principles. For me, then, Habermas is the too extreme rationalist who hasn't, for the moment anyway, come up with anything more than too general principles whose applicability is apparently next to useless in practice!

RORTY'S LIBERAL IRONIST

Rorty (1989) would, in general at least, agree with my last characterization. He criticizes Habermas for thinking that, through communicative reason, a democratic society will embody rationalism, democracy, universalism (p. 67). Rorty thinks that we should be willing to call "true" anything which comes out of free conversation, let alone communicative reason. He wants to drop "the image of a preestablished harmony between the

human subject and the object of knowledge" (p. 67) that are advanced by Habermas' rational speech situations.

Whereas Habermas sees a conversation which converges in rationality and universalism, Rorty wants a more contingent, historical and varied existence. He wants

> to stop asking for universal validity. I want to see freely arrived at agreement as agreement on how to accomplish common purposes (e.g., prediction and control of behavior of atoms or people, equalizing life-chances, decreasing cruelty), but I want to see these common purposes against the background of an increasing sense of radical diversity of private purposes, of the radically poetic character of individual lives, and of the merely poetic foundations of the 'we-consciousness' which lies behind our social institutions (p. 67).

At the base of his argument is the notion of a "liberal ironist." And of this notion, Rorty says,

> liberals are the people who think that cruelty is the worst thing we do. I use 'ironist' to name the sort of person who faces up to the contingency of his or her own most central beliefs and desires--someone sufficiently historicist and nominalist to have abandoned the idea that those central beliefs and desires refer back to something beyond the reach of time and chance (p. xv).

Rorty has certain, sometimes contrary, points of view about moral progress. He makes the point,

> The view I am offering says that there is such a thing as moral progress, and that this progress is indeed in the direction of greater human solidarity. But that solidarity is not thought of as recognition of a core self, the human essence, in all human beings. Rather, it is thought of as the ability to see more and more traditional differences (of tribe, religion, race, customs, and the like) as unimportant when compared with similarities with respect to pain and humiliation--the ability to think of people wildly different from ourselves as included in the range of 'us.' That is why I said...that detailed descriptions of particular varieties of pain and humiliation (in, e.g., novels or ethnographies), rather than philosophical or religious treatises, were the modern intellectual's principal contributions to progress (p. 192).

One thing that's nice about Rorty's view is that our apparently endless search for a universal, principled moral existence does not lead necessarily to an empty or confused condition. Though no a priori law exists to tell us how to live--or how to avoid technological calamity--we can take comfort in our similar searches to avoid personal pain and humiliation. To this mundane but solid extent can we make some moral progress regarding technology.

THE TROUBLE WITH RORTY'S VIEW

But there are several ways in which Rorty's position, too, isn't very helpful in my search for a way we might agree that EBT is always dangerous--as

well as anything else it might be. For one, his conversations simply don't address technology itself enough. Also, he treads dangerous ground when and if he thinks that being able to predict and control people will lead to equality and decreased cruelty. In one way, I'm making the argument that technology is control and predictability, and this condition is what is most dangerous. I agree with Ellul (1990) that with control always comes some degradation or another of humans. Rorty does not fully address this degradation very well.

And also, there is a good argument that his positions lead to unfettered, unhelpful relativism. One could extend (and many have) his reasoning to make the point that whatever anyone decides at any one moment is acceptable. I don't want us giving fetal brain tissue from deceased babies to pre-schoolers who are otherwise perfectly ready for learning, even if an entire community, city, or state have agreed to do so. I want to know the extend of the negotiations, of the moral considerations, of the interests represented by actors in the negotiations. Mostly, we need guiding over-riding moral principles because not everything nations and states agree on is moral.

But what most bothers me about his philosophy is that his stances are all stated in positive, propositional language, and so they seem to contradict themselves by being suspiciously sure of what they say. How is it sensible that he can say, on one hand, that life is contingent, then say, on the other hand, something so sure as,

> our responsibilities to others constitute only the public side of our lives, a side which competes with our private affections and our private attempts at self-creation, and which has no automatic priority over such private motives. Whether it has priority in any given case is a matter for deliberation, a process which will usually not be aided by appeal to 'classical first principles.' Moral obligation is...to be thrown in with a lot of other considerations, rather than automatically trump them (p. 194).

How can he be so sure of this statement when he has just said that there is contingency in everything? If his statement about no automatic trumping is so, how can he begin to claim so surely that pain and humiliation are *the* central human concerns?

And lastly, he doesn't give me guidance by showing me particular enough morality or ethics. His advice is to create a morality that fits the times and could be useful, but I'm looking for something more concrete. Do I have to wait, probably until it's too late, for all of us to get together and reach agreement about dangerous technology? That agreement may never happen, and I want to know soon what widely accepted moral principles to go by in this matter.

BARRETT'S WILL TO FAITH

To this point, then, my hunt for moral guidance in an age of bio-technological schooling has been unsure. Habermas can not sustain his arguments for a moral principle on which we can all agree, and Rorty leaves open the door for relativism that might have us embracing technology too easily, and he gives me little hope for explicit principles that help us to avoid self-destruction via EBT.

William Barrett (1987), on the other hand, focuses not just on questions

of human rationality, argumentation, or shared pain and humiliation as a common human basis. He appears to look farther and higher. He looks at moral questions by raising our moral will to the highest of conditions with which to be graced as a human being. He believes that to achieve freedom we must "try to restore the moral will to a central and primary role in the human personality" (p. 254).

One of his main themes is that faith leading to freedom and action is stymied by technique. Because we live predominantly in a technical era, where instead of the moral will we are the "will to self-assertion and dominance; the will to power" (p. 253), we live in dangerous times, and "The question for our generation...is whether or not mankind will decide for liberty or sink under some modern form of tyranny. And this question is in the end a moral matter" (p. 246).

He suggests that we can sometimes succeed in our moral responsibilities by using traditional and "ritual practices or codes of behavior that might possibility prepare the will for deliverance" (p. 263). He says, "To surrender yourself in the ritual act is a gesture of your humility and ignorance, helplessness and hopefulness, of which the epistemological act is quite incapable" (p. 309). I take Barrett to mean that prayer, thanksgiving, and acknowledgement of the human will to live are moral rituals.

Barrett has given us some clues about being in a moral state. He suggests actions for getting to this moral condition: we must have faith, we must attend to the spiritual in us, we should not believe too much in technique and let it rule our existences.

THE TROUBLE WITH BARRETT

And I believe Barrett is correct, as far as he goes. There is at least one way in which I must point out what might be a contradiction. Yes, people clearly *are* filled with a will to power (see studies by Michel Foucault on this issue, of course.) We are filled with the self will to dominate. And Barrett (1978) seems to argue that to be in a more moral and a less controlling condition requires that we must will to be will-less? But isn't this a contradictory action? We should *will* to be will-less? He attemps to answer this, at least in terms of a blance between the known in life and the mystery of life, with the response "At every moment of every day of our lives, we are involved in a continuous and living transaction with the unknown. This being the case, what then shall be my strategy? It is this: to multiply my points of contact with this unknown wherever I can let it work to my advantage; to deny myself none of its privileges that its unbounded resources might offer" (p. 307). I think Barrett says we are both conditions and that faith is that which we already possess by virtue of existence; humans can not be in one state exclusive of the other, in a faithful condition but not in a will-to-power condition. Rather, he would say that we tend toward one condition or another and that we should now tend toward the moral and the possibilities for greater faithfulness.

Instead, perhaps we gain morality by *giving up* power to the greatest extent possible, by letting go of actions and thoughts that attach to willfulness. It is an interesting question: do we gain a good life by giving up to the extent possible our tendencies to dominate existence, or do we achieve the good life through a more assiduous, conscious, purposeful willing of faith?

Likewise, I want suggest an ironic contradiction that begs for attention (though this is not the most appropriate forum for the bulk of that attention) in this discussion and asks in what sense can or should we resist or deny our rationality, our techno-centrism if you will? It is not an aside to ask if *anything* should be done. That is, should we assume the power to change things by thinking and resisting? I do not think so, but perhaps we should just let nature, including our human nature, take its course? Shouldn't we stop trying to control existence when it's our controlling aspect that may be the culprit to begin with? We might end in some kind of oblivion if we just let it go on, but we might end up in a worse kind of oblivion (psychic, ecological, or cultural oblivion) I've speculated about elsewhere (1990) if we pursue answers these problems. This is quite an uneasy dilemma we live in! Damned if we do will our existence, less damned if we don't?

SOME IMPLICATIONS

Few people are examining the question of EBT. So I predict that, as is historically typical of us, we will wait until the worst aspects of educational and general technology are upon us before we act to fully consider their implications. In the relatively short-term future, the number of EBTs will increase surprisingly quickly; we will be faced with incredibly wider-ranging student and social differences, so cultural upheavals will occur (Nichols, 1990). Habermas notes that any moral can be valid only when it has the approval of all affected, and elitist cultures splitting off from mainstream cultures cause losses of the lifeworld and the physical world. I expect that the uses of EBTs will not be determined in consensual fashion, but will be driven by a certain elite few. And some groups of people, the disadvantaged, will not stand by calmly as other groups use technology to maintain or widen any socio-economic and ecological advantages. I claim that technology and education will produce socio-cultural wars.

These are not especially unusual predictions. A more unsettling revelation comes to me from somewhat beyond the text I have overtly presented so far, and that revelation makes it difficult for me to be faithful in this search for moral wisdom. Having looked at each author's thoughts, I conclude that Habermas, Rorty, and Barrett amount to next to nothing in the current mainstream conversations about today's education, technology, and goodness. Most people in colleges of education, to say nothing of people in our other schools, have not heard of these three essayists. That their names are unfamiliar is excusable. But their ideas go largely unnoticed in the world of day-to-day American schooling and its reform. We in education are dealing mostly with issues of the obviously practical and the here-and-now: how can technology improve student performance, how can we produce more technically competent teachers, how can American schools keep up with the Japanese?

So I repeat, how do we raise the philosophical-moral issues to more conscious and pragmatic levels, especially for teachers and learners? Doing so is extremely difficult when, as Strike (1991) sees it, the problem is "the inability of the public to consume sophisticated [philosophical] discussions about public life" (p. 414). As Rorty (1989) puts it, how do we foster an "increasing sense of radical diversity and of private purposes" that will foster greater human solidarity?

One way to make the issues more publicly prominent is to increasingly raise these issues in public forums. We *should* continue to raise doubt about human technical aspects. Habermas' communicative reason, Rorty's liberal ironist, and Barrett's will to faith are ideas that can become popular, perhaps even before too many self-inflicted disasters enlighten us. I think the main question about the ideas is when we will address them--while we have a little time or when we are at an intellectual, physical, spiritual, and emotional rock bottom. I suspect we'll wait for the bottom.

Still though, we *should* move toward a greater degree of fundamental thinking now, and I believe that the best practical faculty we have for encouraging the questions is personal conversation. This is the case because conversation is a main way in which the ideas mentioned herein have the most likelihood of being meaningful to us (also see Ong, 1982, on this issue). And in its favor, the critical theory of Habermas as described in his theory of communicative action (1981/1984; 1981/1987) is of some help to us. (It is an important aside to note that personal conversation will have the benefit of encouraging democracy.)

In order to stop the bureaucratization and technologizing of education, we must take this conversation, this democracy, more directly to teachers and learners than some of us in higher education have done heretofore. They do not need more highly abstract, academic papers. Learners and teachers do not need more coercing from technology companies or from principals and parents blinded by the light of technology. They need radical, on-site support from those of us who are fortunate enough to have the professorships and other such positions that allow us time, some good ideas, and the desire to mobilize teacher and learner resistance, where it is necessary. We should join and participate in the NEA, for instance.

In my own participation, I must look closely at my motives (Nichols, 1987); I must constantly ask if my actions, my will, are the will to have destructive and dominating power for myself and others or the will to let in the faith and conversation in life that exists already. I look for change based on my attending to my intuition that much technology is needlessly dangerous, and by going to teachers and students with these ideas; I will not extol the purported virtue of technology disengaged from its moral/existential base. This is especially the case in classes I teach, but it is the case everywhere I am.

And, regardless of our inability to pin down many specific universal moral principles in terms of Habermas, Rorty, or Barrett, I believe there are universals--at least ones that go on for most people for long, long times. We should, for instance, follow the universal that we must press the search for moral conditions, moral progress, and see to it that this progress is indeed in the direction of greater human solidarity. Searching in and of itself is a moral act if it is guided by a desire to improve our circumstances in the whole of existence.

Another meaningful morality is the inclination to live rather than die. This inclination appears to me to be inherent in mostly every animal and person, and so it is essentially a universal. Becker (1973) has written wonderfully on this issue and shows that most often people try to live. Barrett (1987) goes so far as to say, "Death remains the supreme adventure to test the moral will" (p.

260). Life, then, is unavoidably a question of morality, whether we acknowledge so or perpetuate and exacerbate the dangers of technology by staying unaware of the questions.

CONCLUSION

To end then, most of us live the moral life simply by clinging to life. And ironically, technology is a manifestation of this clinging, a manifestation which is outgrowing its usefulness/faithfulness. As Barrett suggests, maybe we need to tend to the more existential or spiritual aspect of our lives.

And the morality of living is an idea from which many other morals can be said to derive. "Treat your neighbor as yourself," for example. But ironically again, there seems to be a contrasting, ironic human universal that says we should use (and extend?) our conscious, rational capacities. If we can think of something technological, we will make it. No matter how destructive it may be. (And, of course, some technologies could be positive.)

About this irony of life versus over-extended technology, there is another moral idea that might be helpful: We must at least achieve a *balanced use of technology* (as is the topic of *Koyaanisqatsi*, Reggio, 1983), so that we don't have schools, people, life out of moral and physical balance, so that we might avoid too many unnecessary and intentional deaths.

Perhaps ultimately, as P.D. James (1991) suggests, "Conscience is the voice of God." However you describe your god.

REFERENCES

Barrett, W. (1978).*The illusion of technique*. Garden City, NY; Anchor Press.

Barrett, W. (1987). *Death of the soul*. Garden City, NY: Anchor Books.

Becker, Ernest. (1973). *The denial of death*. New York: The Free Press.

Carr, W. & Kemmis, S. (1986). Becoming critical-Education, knowledge, and action research. London & Philadelphia: The Falmer Press.

Damarin, S. K. (1990). Unthinking educational technology. In The *1989 proceedings of selected research paper presentations of the research and theory division*. Washington, D.C.: The Association for Educational Communications and Technology.

Dede, C. (Speaker, Annual Meeting of the Association for Educational Communications and Technology). (1990). *The coming transformation of educational technology*. (Cassette Recording No. C115-368). Washington, DC: Association for Educational Communications and Technology.

Ellul, J. (1964). *The technological society*. New York: Vintage Books.

Ellul, J. (1990). *The technological bluff*. Grand Rapids, MI: Eerdmans Pub. Co.

Ewert, G. D. (1991). Habermas and education: A comprehensive overview of the influence of Habermas in educational literature. *Review of educational research, 61*, 345-378.

Fosnot, C. T. (1988). The dance of education. In *AECT research and theory division proceedings--1988*. Washington, DC: Association for Educational Communications and Technology.

Goodlad, J.; Soder, R.; Sirotnik, K. (Eds.). (1990). *The moral dimensions of teaching*. San Francisco: Jossey-Bass Publications.

Gustafson, K. (1988). Implications of instructional technologies for the future of education. *Journal of instructional development, 11*,(3) 10-15.

Habermas, J. (1990). *Moral consciousness and communicative action* (C. Lenhart & S. Nicholsen, Trans.). Cambridge, MA: The MIT Press. (Original work published 1983)

Habermas, J. (1984). *The theory of communicative action: Vol. 1, reason and the rationalization of society.* (Thomas McCarthy, Trans.). Boston, MA: Beacon Press. (Original work published 1981)

Habermas, J. (1987). *The theory of communicative action: Vol. 2, lifeworld and system: a critique of functionalist reason.* (Thomas McCarthy, Trans.). Boston, MA: Beacon Press. (Original work published 1981)

Hanson, C. & Gueulette, D. (1988). Psychotechnology as instructional technology: Systems for a deliberate change in consciousness. Educational Communications and Technology Journal, 36, (4) 231-242.

Hardison, Jr., O.B. (1989). Disappearing through the skylight. NY: Penguin.

Heinich, R., Molenda, M., & Russell, J. (1989). Instructional media and the new *technologies of instruction.* New York: Macmillan.

Hlynka, D. & Belland, J. (1991). (Eds.), *Paradigms regained: Uses of illuminative, semiotic and post structural criticism as a mode of inquiry in educational technology.* Englewood Cliffs, NJ: Educational Technology Publications.

James, P.D. (1991). [Interview at end of *Devices and desires*, final episode]. *Mystery.* Public Broadcasting System.

Knirk, F.G. & Gustafson, K.L. (1986). Instructional technology--A systematic approach to education. New York: Holt, Rinehart and Winston.

Koetting, J. Randall. (1983). Philosophical foundations of instructional technology. *1983 proceedings of selected research paper presentations of the research and theory division.* Washington, DC: Association for Educational Communications and Technology.

Lang, R.M. (Ed.). (1990). [Special issue]. *Journal of thought., 25* (1&2). DeKalb, IL: Northern Illinois University.

McCarthy, T. (1991). *Ideals and illusions: On reconstruction and deconstruction* in contemporary critical theory. Cambridge, MA: MIT Press.

Nichols, R. G. (1987). Toward a conscience: Negative aspects of educational technology. *Journal of Visual Literacy*, 1987, 7(1), 60-71.

Nichols, R. G. (1988). Educational technology: A moral issue. In AECT *Research and Theory Division Proceedings-1988.* Washington, DC: Association for Educational Communications and Technology.

Nichols, R. G. (1990). Reconciling educational technology with the lifeworld: A study of Habermas' theory of communicative action. *Ohio Media Spectrum, 42*,(3) 32-39. Nichols, R. G. (1990). Speculations on a catastrophic future, education, and technology. *Journal of Thought, 25* (1&2), 126-142.

Nichols, R. G. (1991). Toward a conscience: Negative aspects of educational technology. In D. Hlynka and J. Belland (Eds.), *Paradigms regained: Uses of illuminative, semiotic and post structural criticism as a mode of inquiry in educational technology* (pp. 121-137). Englewood Cliffs, NJ: Educational Technology Publications.

Ong, W.J. (1982). *From orality to literacy: The technologizing of the word.* New York: Methuen.

Randall, J.H. & Buchler, J. (1971). *Philosophy: An introduction.*. New York: Barnes & Noble Books.

Reggio, G. (Producer), & Reggio, G. (Director). (1983). *Koyaanisqatsi* [Film]. Pacific Arts Video Records; MGM.

Rorty, R. (1989). *Contingency, Irony, and Solidarity.* Cambridge: Cambridge University Press. Settler, P. (1990). *The evolution of American educational technology.* Englewood, CO: Libraries Unlimited.

Sarason, S. (1990). *The predictable failure of educational reform.* San Francisco: Jossey-Bass.

Sattin, R. (Producer), Slee, M. (1989). *After the warming* [Film]. Maryland Public Television & Film Australia.

Schwen, T.M. (1988). Professional ethics: An analysis of some arguments for development of virtuous behavior. In *Research and Theory Division Proceedings--1988.* Washington, D.C.: Association for Educational Communications and Technology.

Strike, K. & Soltis, J. (1985). *The Ethics of teaching.* New York: Teachers College Press.

Strike, K., (1991). The moral role of schooling in a liberal democratic society. In G. Grant (Ed.), Review of Research. Washington, D.C.: American Educational Research Association.

Sutton, R. E. (1991). Equity and computers in the schools: A decade of research. *Review of Educational Research*, 61(4), 475-503.

Taylor, W.D. & Swartz, J. (1988).Instructional technology and proliferating world views. In*Research and theory division proceedings-1988. Washington, D.C.: Association for Educational Communications and Technology.*

Taylor, W. D. & Johnsen, J. B. (1986). Resisting technological momentum. In J.A. Culbertson and L.L. Cunningham (Eds.),*Technology and education (85th yearbook of the national society for the study of education).* Chicago: University of Chicago Press.

Young, R. E. (1990). *A critical theory of education.* New York: Teachers College Press.